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NASA will host an Open Source Summit in the fall. Stay tuned to future issues of *IT Talk* for more details. □

Office of the Chief Information Officer
NASA CIO Linda Y. Cureton

Protecting NASA's Networks

Protection from Cyber Crime: NASA Security Operations Center (SOC)

Source: Andrea M. Riso, Ames Research Center

NASA: A Leader in Federal Efforts Against Cyber Crime

NASA's efforts around cyber security have prompted Vivek Kundra, the Chief Information Officer of the United States, to ask NASA to take the lead in forming a task force to demonstrate to other Agencies a pragmatic way to implement cyber security using automated systems. □

President Obama's declaration making cyber security a top national and economic security priority explains that there are thousands of attempts to penetrate sensitive networks to steal our nation's secrets and technology every day.

The Security Operations Center (SOC) is NASA's nerve center for detection and monitoring of security incidents for the Agency, providing continuous, uninterrupted event detection, situational awareness, incident management and tracking. The SOC maintains a sound and secure information assurance posture for more than 100,000 (including telephones) devices and users across NASA.

threats, mapping information between threats to NASA and NASA's inherent vulnerabilities. The SOC also performs penetration testing for NASA to determine security weaknesses with enterprise-wide ability to identify and respond to security incidents.

The NASA SOC, at the forefront of technological development, has capabilities including: real-time detection of NASA systems with malware infection; effectively blocking access to malicious exploit sites; preventing beaconing and data loss; using an effective multi-layer defense; and critically important real-time intelligence. These capabilities serve NASA's uniquely diverse technological environment of scientists, engineers and others, supporting a multitude of operating systems.

The SOC invests in the testing and development of advanced technologies to address growing cyber-security needs including cloud computing. SOC personnel are heavily involved in establishing best practices in securing virtual environments and developing cutting-edge techniques in alignment with SOC performance of incident handling, response and forensics.

Additional SOC services include:

- System monitoring.
- Network flow monitoring.
- Log aggregation, correlation and analysis.
- Vulnerability detection and management.
- Threat management and tracking.
- Incident coordination and management.
- Computer forensics analysis.
- Malware analysis and reverse engineering.

- Advance persistent threat defense.
- Threat notification.
- SOC help desk.

Collaborating with external agencies, offices and organizations including the US-CERT, Forum for Incident Response and Security Teams (FIRST) and the Bay Area CSO Council, the SOC also works closely with the FBI and Counterintelligence (CI) to mitigate threats and vulnerabilities. The SOC also, in partnership with CI, determines current and future Cyber Terrorism threats in addition to supporting investigations and prosecutions of cyber criminals.

NASA's SOC is tracking, monitoring and reporting issues 24x7x365. For more information or to report an issue, contact 1-877-NASA-SEC (1-877-627-2732) or soc@nasa.gov □



Photo Above: Inside the Security Operations Center.

NASA's state-of-the-art SOC accomplishes detection through innovative solutions, utilizing proprietary systems to track and manage incident response activity, consolidating Agency-wide coordination and communication.

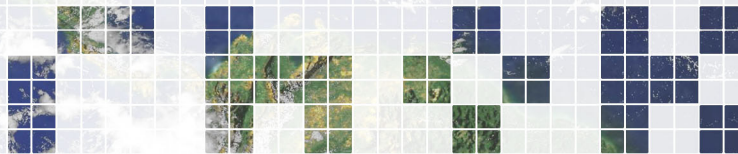
The SOC works side-by-side with the NASA's Computer Forensics and Incident Analysis (CFIA) team and the Cyber Threat Analysis Program (CTAP), which focus on addressing the most serious



NASA Rejoins World Wide Web Consortium

NASA has rejoined the World Wide Web Consortium (W3C), an international organization whose mission is to develop web protocols, standards and guidelines designed to ensure universal access to the World Wide Web.

"Standards will play a key role in making NASA's content more accessible on the Internet and in the implementation of our



Random Hacks of Kindness
Hacking for Humanity

Global Hackers Marathon Creates Solutions to Global Problems

Reducing risk of landslides, alerting people to disasters and creating a citizen help network are the top three award-winning solutions created by hackers at the Washington DC "Hacking for Humanity" event, part of a global "hackathon" that took place June 4 through 6, 2010, sponsored by NASA, the World Bank, Google, Microsoft, and Yahoo!.

Organized by Random Hacks of Kindness (RHoK), the global marathon applied the skills of software developers to sustainable development and disaster risk issues. Other events took place in Sydney, Nairobi, Jakarta, Puerto Alegre and Sao Paulo.

More than 300 people attended the kick off reception at the State Department followed by weekend "hackathon" at the Micro-

soft offices. Hackathons are a fast-paced competition where software developers have a set amount of time to solve challenges defined by subject matter experts. At the end of the two-day marathon of hacking, 16 hacks were submitted for judging.

"NASA is proud to be supporting Random Hacks of Kindness and promote wider usage of our open data to solve the world's greatest challenges," said NASA CIO Linda Cureton.

The winner was the Chasm project, a collaboration between a dedicated developer team and a subject matter expert from The World Bank. The Chasm program assesses landslide risk, an increasing risk facing some of the world's most vulnerable communities. The algorithms to understand and model the risk existed,

Open Government plan. Additionally, standards nurture technology innovation. We are especially interested in participating in those areas where NASA's ongoing technical requirements overlap with the W3C's standardization efforts (some of these areas include HTML5, rules, OWL ontologies, and data provenance)," said NASA CTO for IT Chris C. Kemp, and the driving force behind the initiative.

NASA was a member of W3C from 1999-2002.

"W3C is delighted to have NASA's participation in our [Working Groups]," said Dr. Jeff Jaffe, W3C Chief Executive Officer. "Their expertise in eGovernment, linked open data and semantic web technologies will bring great

depth and breadth of experience to these communities."

NASA has taken a leading role among Federal Agencies in promoting transparency and enabling access to public information.

"It is a natural step for NASA to contribute its expertise to the mission of the W3C," said NASA Chief Information Officer Linda Cureton.

The World Wide Web Consortium (W3C) is an international consortium where member organizations, a full-time staff, and the public work together to develop web standards. For more information see www.w3.org/. □

but were too complex to be used by engineers in the field.

The Chasm team created web-based software that allows engineers to enter data and then visualize and interpret it to understand the risk. Local communities are better able to build with landslide prevention in mind. The World Bank has already expressed an interest in implementing the program in the field in the Caribbean region this summer.

The second-place winner was an application that allows emergency messages related to disasters (e.g., evacuations for hurricanes, tsunamis, other weather alerts) to appear on a browser or mobile phone similar to the Emergency Broadcast System for U.S. television.

Third place was a citizen help network that lets citizens practice helping each other in everyday situations so they are ready to help each other in a disaster and alleviate overwhelmed 311 and 911 networks.

All global marathon locations worked off the same evolving wiki site addressing the problem definitions, and were connected by videoconference and IRC chat channel.

Some hacker groups collaborated globally, for example teams from RHoK Sydney and RHoK DC collaborated on the development of the person finder application.

For more information go to www.RHoK.org. □

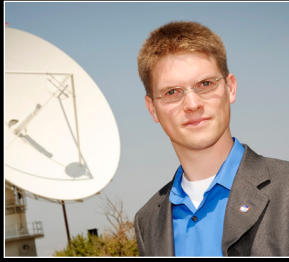


Bruce O'Dell New CIO of NSSC

Bruce O'Dell is the Chief Information Officer for the NASA Shared Services Center (NSSC). O'Dell leads NSSC IT staff in Agency-wide desktop outsourcing initiatives as well providing support for Agency back office services in finance, human resources, procurement and information technology.

During O'Dell's 25 year career, he has worked in both public and private sector organizations. Prior to his assignment at the NSSC, he served for six years as an Information Technology Director and Deputy CIO for the Government Printing Office where he was a champion for e-Business, process reengineering, knowledge management, information assurance and critical infrastructure protection. Other Government assignments included Deputy CIO for the Executive Office of the President and Director of Information Management at the U.S. House of Representatives where he was a primary advocate for privatization, as well as interagency support and partnering efforts.

O'Dell holds a bachelor's degree in business management from Rochester Institute of Technology in New York, and a master's from Central Michigan University. □



NASA Chief Technology Officer for IT Honored by CIO Magazine
 NASA's Chief Technology Officer for Information Technology Chris C. Kemp has been recognized with *CIO Magazine's*, "CIO 100," award for his work done while he was CIO for NASA's Ames Research Center in Moffett Field, Calif., in 2009. Every year, *CIO Magazine* identifies and honors 100 organizations that have distinguished themselves through the effective and innovative use of information technology. □



August 16-18, 2010 • National Harbor, Washington DC

NASA's first Information Technology (IT) Summit will bring together government and industry leaders to explore the outer reaches of information technology.

The Summit will gather 900 participants and more than 100 expert presenters with themes around collaboration, social networking, innovation, infrastructure, operations and IT security and privacy.

Speakers Include:

- **NASA's** Linda Cureton, CIO and other NASA center CIOs
- **Walt Disney's** Jack Blitch, Vice President & General Manager Walt Disney Imagineering-FL.
- **Google's** Vint Cerf, Vice President & Chief Internet Evangelist.
- **Dell Services'** Jim Stikeleather, Chief Innovation Officer.
- **Symantec's** Mark Bregman, Chief Technology Officer.
- **Inspirion's** Misti Burmeister, Chief Executive Officer.
- **Gartner Inc.'s** David W. Cearley, Vice President and Gartner Fellow in Research.

Making IT Stellar at NASA

Send feedback about IT Talk to John Hopkins at john.hopkins@nasa.gov.

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